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I. Introduction

In response to the Office Action dated November 1, 2006, no claims have been cancelled, amended or added. Claims 1, 2, 4-7, 9-12, 14, and 15 remain in the application. Re-examination and re-consideration of the application is requested.

II. Double Patenting Rejection

In paragraph (2) of the Office Action, claims 1-15 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5 and 7-8 of co-pending Application No. 09/939,813 respectively.

Applicants' attorney notes the provisional nature of this rejection, and will respond substantively upon receipt of an indication of otherwise allowable claims.

III. Prior Art RejectionsA. The Office Action Rejections

In paragraphs (5)-(6) of the Office Action, claims 1, 2, 4-7, 9-12, 14, and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,208,345 (Sheard) in view of U.S. Publication No. 2002/0078432 A1 (Charisius).

Applicants' attorney respectfully traverses these rejections.

B. The Applicants' Independent Claims

Independent claims 1, 6 and 11 are generally directed to developing multi-tier business applications. The computer-implemented system of claim 1 is representative, and comprises an Integrated Development Environment (IDE), executed by a computer, for creating and maintaining a multi-tier business application on a multiple tier computer network, wherein the IDE includes a Topological Multi-Tier Business Application Composer that is used by a developer to graphically create and maintain the multi-tier business application, a Meta-model that captures and persistently stores information entered via the Composer, and an Interactive Agent that monitors the Meta-model for an occurrence of an event that comprises a possible non-optimization in a portion of the multi-tier business application based upon an heuristic analysis of information gathered by the Composer and stored within the Meta-model, wherein the Interactive Agent operates from a knowledge base stored as a part of the Meta-model, and the knowledge base is structured in such a

way that the occurrence of the event causes the Interactive Agent to access the knowledge base to identify context information comprising a list of suggested and recommended actions for the event, in order to trigger a display of a graphical element including the context information in the Composer to interact with the developer.

C. The Sheard Reference

Sheard discloses a visual data integration system architecture and methodology. The system architecture includes a transport framework that represents a technology-independent integration mechanism that facilitates the exchange of technology-dependent data between disparate applications. A visual interface facilitates the design, deployment, and runtime monitoring of an integrated information system implementation. An integrated information system is developed visually through use of the visual interface by dragging and dropping components within a canvas area of the interface. The components are graphical representations of various telecommunications hardware and software elements, such as information stores, processors, input/output devices and the like. Various components may be packaged together as business extension modules that provide specific business integration capabilities. Interconnections between components are graphically established using a mouse to define sources and destinations of specified data. An underlying configuration/runtime information framework operating above and in concert with the transport framework effectively transforms the graphical interconnections into logical or physical interconnections, which results in the contemporaneous generation of an integrated runtime system. Format neutral data meta-models are employed to model the input and output data requirements of disparate systems and system components so as to remove any cross-dependencies that exist between the systems and technologies implicated in a data integration project. The visual interface enables runtime control and analysis of the business information and system aspects of an integrated system implementation. Visual views onto the live deployment provide consistent management and control for system integrators, business integrators, system managers, and business managers using a single visual interface.

D. The Charisius Reference

Charisius describes methods and systems that provide an integrated process modeling and project planning tool that allows an enterprise affiliate to improve a workflow that models a process. To improve the workflow, the tool initiates execution of a plan created from the workflow such that

an instance of the process is at least partially performed, receives a characteristic about the performance of the plan, and modifies the workflow to reflect the characteristic so that a subsequent plan created from the modified workflow has the received characteristic.

E. The Applicants' Invention is Patentable Over the References

The Applicants' invention, as recited in independent claims 1, 6 and 11, is patentable over the references, because it contains limitations not taught by the references.

Applicants' independent claims recite a Topological Multi-Tier Business Application Composer that is used by a developer to graphically create and maintain the multi-tier business application, a Meta-model that captures and persistently stores information entered via the Composer, and an Interactive Agent that monitors the Meta-model for an occurrence of an event that comprises a possible non-optimization in a portion of the multi-tier business application based upon an heuristic analysis of information gathered by the Composer and stored within the Meta-model, wherein the Interactive Agent operates from a knowledge base stored as a part of the Meta-model, and the knowledge base is structured in such a way that the occurrence of the event causes the Interactive Agent to access the knowledge base to identify context information comprising a list of suggested and recommended actions for the event, in order to trigger a display of a graphical element including the context information in the Composer to interact with the developer.

Sheard discloses a visual data integration system architecture and methodology, wherein an integrated information system is developed visually through use of the visual interface by dragging and dropping components within a canvas area of the interface. The components are graphical representations of various telecommunications hardware and software elements, such as information stores, processors, input/output devices and the like.

However, the Office Action admits that Sheard fails to provide explicit details regarding an Interactive Agent that operates from a knowledge base stored as a part of the Meta-model, wherein the knowledge base is structured in such a way that the occurrence of the event causes the Interactive Agent to access the knowledge base to identify context information comprising a list of suggested and recommended actions for the event.

Nonetheless, the Office Action cites Charisius as disclosing these elements of Applicants' claims, as follows:

Sheard failed to provide explicit details regarding:

- wherein the Interactive Agent operates from a knowledge base stored as a part of the Metamodel,

However, Charisius disclosed an (Abstract) "integrated process modeling and project planning tool (business application) that allows an enterprise affiliate to improve a workflow that models a process." [0197] - "the Client Interface 134 (Interactive Agent) ... increases the operating efficiency of the enterprise by optimizing a workflow using data mined (knowledge base stored) from plans created from the workflow. The term 'data mining' describes techniques for analyzing large amounts of enterprise data to determine trends, statistically significant information and functional relationships.. ..may include planned duration and actual duration for a task. As an example of the Meta-model, see FIGS. 69 & 70, and related text at [0068-0069]. See FIG. 72 [0071] as related to knowledge used by the Client Interface and stored by the Meta model .

- and the knowledge base is structured in such a way that the occurrence of the event causes the Interactive Agent to access the knowledge base to identify context information comprising a list of suggested and recommended actions for the event,

Charisius: [0200] - "In general, the Client Interface 134 is able to perform the conditions-to-check on each task of each plan created from the activity in the workflow and then generate optimization suggestions for the activity that an enterprise affiliate may selectively choose ..."

- in order to trigger a display of graphical element including the context information in the Composer to interact with the developer.

Charisius: [0224] - "Next, the Client Interface 134 logs or stores optimization information for the activity ... includes the condition-to-check, the activity, the task, the planned-task-property, and the actual-task-property. The Client Interface 134 may store the optimization information for the activity so that the Client Interface 134 is able to quickly reference the optimization information ... Thus the Client Interface 134 is able to obtain any summary of logged optimization information for an activity of a workflow."

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Sheard's invention for visual development, by including workflow modeling optimizations, as disclosed by Charisius, because Charisius recognized the need for tools that [0009] "provide direct links between projects and the workflows or business processes that the enterprise has defined and seeks to implement to gain business advantage and economies of efficiencies." Charisius disclosed [0105], "The Process and Plan modules 1356 produce the requests to store or modify the various client files on the WebDAV storage 142 ... any type of file can be used to represent the client files." Likewise, Sheard recognized (col. 3, lines 1-4) the "need for a system and methodology that employs a single intuitive user interface that provides various types of information to users having disparate data input and output requirements."

Applicants' attorney disagrees with the Office Action's analysis.

Charisius describes how a workflow is optimized using data mined from plans created from the workflow.

In one example, the data mined may include planned duration and actual duration for a task of each plan created from an activity of the workflow, where the actual duration is substantially different from the planned duration (e.g., the task takes substantially longer or shorter to complete than planned) that was specified as a characteristic of the activity of the workflow. Charisius may optimize the workflow by adjusting the planned duration of the activity in the workflow so that when another plan is subsequently created from the optimized workflow the task corresponding to the activity is created with an optimal duration based on the data mining results.

In another example, the data mined may include a resource assigned to the task. When creating a plan from a workflow, the planned (or automatically assigned) resource may be manually overridden with a replacement.

However, contrary to the Office Action's assertions, there is no "occurrence of an event that comprises a possible non-optimization in a portion of the multi-tier business application" in Charisius, nor is there any "display of a graphical element including ... context information" in Charisius where the context information is identified in response to the occurrence of the event.

Instead, the optimization in Charisius is performed without any occurrence of such an event.

Because Charisius fails to teach these elements of Applicants' claims, the combination of Sheard and Charisius does not anticipate or render obvious Applicants' claimed invention. Moreover, the various elements of Applicants' claimed invention together provide operational advantages over the combination of Sheard and Charisius. In addition, Applicants' invention solves problems not recognized by the combination of Sheard and Charisius.

Applicants' attorney submits that independent claims 1, 6 and 11 are allowable over the combination of Sheard and Charisius. Further, dependent claims 2, 4-5, 7, 9-10, 12 and 14-15 are submitted to be allowable over the combination of Sheard and Charisius in the same manner, because they are dependent on independent claims 1, 6, and 11, respectively, and thus contain all the limitations of the independent claims. In addition, dependent claims 2, 4-5, 7, 9-10, 12 and 14-15 recite additional novel elements not shown by the combination of Sheard and Charisius.

IV. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited.

Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

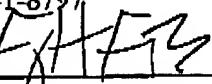
Respectfully submitted,

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